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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------|-------------|----------------------|---------------------|------------------|
| 10/754,026 | 01/08/2004 | Avoki M. Omekanda | DP-310298 | 6093 |
| 22851 | 7590 | 10/14/2005 | EXAMINER | |
| DELPHI TECHNOLOGIES, INC. | | | AURORA, REENA | |
| M/C 480-410-202 | | | ART UNIT | |
| PO BOX 5052 | | | PAPER NUMBER | |
| TROY, MI 48007 | | | 2862 | |

DATE MAILED: 10/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

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|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/754,026 | Applicant(s) OMEKANDA ET AL. | |
| | Examiner Reena Aurora | Art Unit 2862 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09/23/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.



Bot Ledynh
Primary Examiner

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This communication is in response to amendment received on 09/23/05.

Claims 1 – 24 are presented for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 – 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Lutz (6,522,130).

As to claim 1, Lutz discloses an accurate rotor position sensor including a ring magnet (200, fig. 7) couplable to the rotatable member (712), the magnet (200) defining magnetic flux lines (Note fig. 1 and 2), portions of the magnetic flux lines being main flux lines emanating away from the magnet (flux lines immediately emanating from the magnet) and portions of the magnetic flux lines being return flux lines returning radially to the magnet (emanated flux line after being immediately emanated becomes a return flux line); and at least one magnetic field sensor (722 in fig. 7 and 109 in fig. 1 and 2) disposed in at least one of the return flux lines and outputting a signal representative of the angular position of the magnet (Abstract lines 1 - 4).

As to claim 9, Lutz discloses a method for determining rotor position wherein providing a disk-shaped magnet (100, fig. 1, col. 4, lines 4 - 9) defining magnetic flux lines, portions of the magnetic flux lines being main flux lines (flux lines immediately emanating from the magnet) and portions of the magnetic flux lines being return flux lines returning radially to the magnet (emanated flux line after being immediately emanated becomes a return flux line); sensing magnetic flux in at least one of the return flux lines (109 in fig. 1); and outputting a signal representative of the angular position of the magnet, based on the sensing act (Abstract lines 1 - 4).

As to claim 10, Lutz discloses that the magnet (200, fig. 2) is annular.

As to claim 17, Lutz discloses an accurate rotor position sensor including magnet means (200, fig. 7) for generating magnetic field; and sensing means (722 in fig. 7) disposed in radial return flux lines (emanated flux line after being immediately emanated becomes a return flux line) generated by the magnet means (200) for outputting a signal representative of an angular position (Abstract lines 1 - 4).

As to claim 18, Lutz discloses that the magnet means is a ring magnet (200, fig. 2) and the sensing means is a sensor (109).

As to claim 2, Lutz discloses that the sensor (109, fig. 1 and 2; 722, fig. 7) is disposed radially outside of an outer diameter of the magnet (100, 200).

As to claims 3, 11 and 19, Lutz discloses that the sensor is a Hall effect sensor (109, fig. 1 and 2) (col. 4, line 28).

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As to claims 4, 12 and 20, Lutz discloses that the sensor (722, fig. 8) is oriented to sense a radial component of magnetic flux (col. 4, lines 47 - 54).

As to claims 5, 13 and 21, Lutz discloses that the sensor (109 in fig. 1 and 2; 722 in fig. 8) is located in a radial return flux line at a location where the radial return flux line is substantially parallel to an annular surface of the magnet (100, 200).

As to claims 6, 14 and 22, Lutz discloses that the sensor (722) is oriented to sense an axial component of magnetic flux (fig. 7, col. 4, lines 8 - 32).

As to claims 7, 15 and 23, Lutz discloses that the magnet (200) defines a central axis (714) and a plane perpendicular to the axis, the sensor (722) being disposed substantially in the plane (fig. 7).

As to claims 8, 16 and 24, Lutz discloses that the rotatable member (712) is a vehicle component (col. 1, lines 10 - 13).

Response to Arguments

Applicant's arguments filed on 09/23/05 have been fully considered but they are not persuasive. Applicant's argument that the magnetic field sensor is placed in radially returning flux lines and applicant is interpreting this phrase as flux lines being emanating from one surface of the magnet and returning to the opposite surface. Response: The limitation "flux lines being emanating from one surface of the magnet and returning to the opposite surface" is not in the claim language and examiner disagrees with applicant's interpretation that the magnetic field sensor is placed in radially returning flux

lines and applicant mean that the flux lines being emanating from one surface of the magnet and returning to the opposite surface.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reena Aurora whose telephone number is 571-272-2263. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, E. Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Reena Aurora



Bot Ledyne
Primary Examiner